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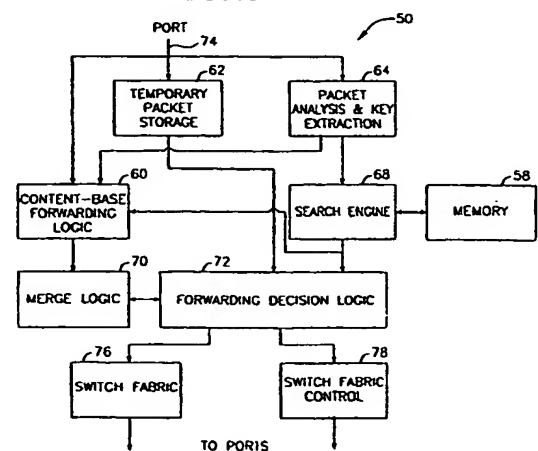
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### (54) Content-based forwarding/filtering in a network switching device

(57) A method of processing frames received at a sending port of a switching device for communication to a destination port includes storing in the switching device an offset value, a comparator value, and an expectant value; comparing information located at a position in a frame determined by the offset value with the comparator value to obtain an outcome; and processing the frame with the outcome. Processing the frame may include communicating the frame to a destination port or setting the priority of the frame. The offset and comparator values may be part of a filter that also includes an anchor value from which the offset value is measured and a mask value that masks the frame information before comparison with the comparator value. Where there are a multiple of filters in the switching device, the method may include combining the filter outcomes to obtain a filter group outcome; and processing the frame with the group outcome. Combining the filter outcomes may include logically combining their outcomes. The method may also include merging the outcome with frame forwarding information from another source; and processing the frame with the merged outcome. Apparatus in accordance with the invention practices these methods.

FIG. 3



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## EUROPEAN SEARCH REPORT

Application Number  
EP 99 11 9103

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 5 790 554 A (FERGUSON EARL ET AL) 4 August 1998 (1998-08-04)  * claims 1,2 * * column 3, line 9 - column 4, line 42 * * column 6, line 47 - column 9, line 52 *	1,2,4,5, 7,8, 10-12, 15-19	H04L29/06 H04L12/22 H04L12/46
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A	SRINIVASAN V ET AL: "FAST AND SCALABLE LAYER FOUR SWITCHING" COMPUTER COMMUNICATIONS REVIEW, ASSOCIATION FOR COMPUTING MACHINERY. NEW YORK, US, vol. 28, no. 4, October 1998 (1998-10), pages 191-202, XP000914435 ISSN: 0146-4833 * abstract * * page 192, left-hand column, paragraph 3 - page 192, right-hand column, paragraph 4 * * page 193, left-hand column, paragraph 4 - page 193, right-hand column, paragraph 3 * * page 194, left-hand column, paragraph 5 * * page 201, left-hand column, paragraph 3 - page 201, right-hand column, paragraph 5 *  -----	1-19	
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>3 July 2003</b>	Examiner <b>Raposo Pires, J</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons  & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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